ther reductions in costs with no detriment to benefits were seen when modified risk criteria were in the guidelines were not followed and bone mass density measurements and diagnostic testing were excluded. Sensitivity analysis of the results identified sex as a major influence on cost effectiveness. When men were excluded, favourable reductions were seen in the cost per fracture averted and cost per QALY saved.
CONCLUSION: When managing corticosteroid-induced osteoporosis in respiratory patients, this study showed that it was more cost-effective to use modified guidelines than existing guidelines. The modifications proposed are to include risk assessment criteria for sex, and use of intermittent oral and inhaled corticosteroids.

PA012

DIRECT MEDICAL COST OF OSTEOPOROSIS IN THE UNITED STATES: PROJECTIONS FOR 2000–2025

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The prevalence of osteoporosis is expected to increase from 10.1 million in 1996 to 14.7 million in 2015 (NOF, 1997). Medical cost was estimated to be $13.8 billion in 1995, but growth has not been predicted.
OBJECTIVE: To estimate the direct medical cost of osteoporotic fractures in the US in 2000-2025.
METHODS: Cost of osteoporosis for women aged 50 to 99 was predicted using a Markov model, which tracked cohort movements across fracture-outcome states. We ran 50 consecutive cohorts from age 50 to 99, each with a 25-year follow-up. Average cost at each patient age was adjusted by osteoporosis attribution rates. Then the population of women aged 50 to 99 was multiplied by the age-specific average cost to determine total cost by age within each year (2000–2025). Because fracture incidence rates were unavailable for men and for "other" fracture types in women, these costs were estimated by multiplying base year costs by the respective population increases over time. Unit costs for hospital inpatient care were estimated by fracture type from the Nationwide Inpatient Sample, applying high-cost outlier edits and a 20% payer discount. For non-hip fractures, we multiplied mean hospital charges by 0.10 to 0.159 to reflect the low proportion of fractures resulting in hospitalization. Primary and long-term care costs were obtained from published national estimates.
RESULTS: In 2000, we estimate that osteoporosis caused 1.2 million fractures in the U.S. at a direct medical cost of $16.2 billion. Three-fourths of fractures occurred in individuals age 75 and older, and over one third (35%) occurred in nursing facilities. Annual cost is projected to grow by 58% to $25.6 billion in 2025.
CONCLUSION: Without change in medical practice, this preventable disease will impose a substantial burden on the US health-care system as the population ages.

PA013

UNITED STATES COMMUNITY PHARMACISTS' INTERVENTIONS WITH FEMALE PATIENTS REGARDING OSTEOPOROSIS

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OBJECTIVE: After community pharmacists in five states attended a Women's Health Pharmaceutical Care certification program, we evaluated pharmacists' interventions provided to osteoporosis patients.
METHODS: Pharmacists participated in a six-topic Women's Health Educational program including self-study modules and live continuing education. Pharmacists faxed intervention-report forms to researchers reporting patient's problems, pharmacist interventions, and intervention outcomes for patients. This report focuses on interventions for osteoporosis.
RESULTS: Female patients (n = 140) identified with medication issues related to osteoporosis were provided pharmaceutical care. The mean age of these patients was 51.29, SD 9.85. The most common drug-related problems were untreated indications or the need for an additional drug (42.9%), and side effects from a medication (17.9%). The highest adherence problem was that patients discontinued their medications (51.4%). In 90% of the cases, the pharmacists provided interventions directly to the patients by giving patient education about medications, disease management, and alternative therapy. Pharmacists suggested the patients talk with their physician about prescription products in 37.1% of the cases. In another 17.9% of cases they contacted physicians for recommended medications or to schedule an appointment for the patient. About 25% of the patients were scheduled to see their physician or received a new drug from the physicians. Pharmacists recommended over-the-counter (OTC) drugs or vitamins and minerals to 35.7% patients. In 32.9% of the cases, the patient added OTC drugs or vitamins and minerals. Pharmacists spent an average of 14 minutes with each patient to identify and provide interventions for specific problems. In 85.1% of the interventions the pharmacist felt confident to provide pharmaceutical care for the osteoporosis patients.
CONCLUSIONS: Community pharmacists are in a prime location to identify patients at risk for medication problems related to osteoporosis. These data suggest that when pharmacists identify problems with drug therapy, positive outcomes occur.

PA014

THE COST-EFFECTIVENESS OF CALCIUM AND VITAMIN D3 SUPPLEMENTATION FOR THE PREVENTION OF OSTEOPOROTIC HIP FRACTURES IN SWEDEN

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